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ABSTRACT

A project was conducted to develop a computer forestry/forest products bibliography applicable to high school and community college vocational/technical programs. The project director contacted curriculum clearinghouses, computer companies, and high school and community college instructors in order to obtain listings of public domain programs for the bibliography. More than 50 public domain computer programs were located. Also located and included were proprietary programs that were not an original intent of the project. The catalog has been disseminated nationwide to more than 50 persons, middle schools, high schools, and colleges. This document contains the catalog and a brief final report of the project. The catalog includes computer programs in the following areas: educational games, forest protection (fire, insects, disease), logging, mensuration, recreation, surveying, tree and shrub identification, and valuation. Names and addresses of developers and donors are included. Each program listed includes title, description, by whom it was donated, and the computer for which it was written. Some of the programs are available on Apple II disks; others must be obtained from the sources listed. (KC)

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PUBLIC DOMAIN
MICROCOMPUTER SOFTWARE
FOR FORESTRY

APRIL 1984

PUBLIC DOMAIN

MICROCOMPUTER SOFTWARE

FOR FORESTRY

Each program listed includes title, brief description, by whom it was donated, and the computer for which it was written. We have listings of all programs except those preceded by an asterisk. Listings new to this edition are preceded by an "n".

If you want a disk or tape of a program you will have to contact the developer or donee in most cases. We do have selected programs on disk. These disks are for Apple II computers. Programs included on these Apple disks are preceded by a "d". Copy fee is $1 plus your disk. Write for details. If you wish a listing, or an Apple disk, contact Les Martin, see address below. Listings are free to O.V.F.P.I.A. members and contributors. Minimum cost is 50 cents each to non members.

The success or failure of this project depends on contributions from the field. Please contribute. The listing will be updated annually if sufficient programs continue to come. Revisions will be sent to all persons on our mailing list. If you wish to be on our mailing list send your name and address to the address below.

Mail all program contributions to:

Les Martin
North Bend High School
14th & Pacific Street
North Bend, OR 97459

NO COPYRIGHTED PROGRAMS PLEASE!

TABLE OF CONTENTS

Educational Games

Forest Protection--Fire, Insects, Disease

Logging

Mensuration

Recreation

Surveying

Tree and Shrub I.D.

Valuation

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Miscellaneous

Addresses of Developers and Donors

EDUCATIONAL CAMES

d1. Puzzle generator, makes word searches on any topic, donor Les Martin, North Bend High School, Apple II, Epson 80.

d2. Loggers Hangman, standard hangman game using 185 logging and forestry words and terms, donor Les Martin, North Bend High School, Apple II.

FOREST PROTECTION--FIRE, INSECTS, DISEASE

d1. FIRE, a forest fire game--using chemical drops and backfires, donor Sierra College, HP-2000, language BASIC. Also Apple II.

2. DISEZ, teaches scientific names of selected diseases, donor Sierra College, HP-2000, language BASIC, (recommend most machine responses to student be changed.)

3. INSECT, teaches scientific names of selected insects, Donor Sierra College, HP-2000, language BASIC.

n.d.4. MICRO-BEHCON, predicts fire behavior, fire containment, and costs for forest fires, Jerry L. Williams, Apple II.

LOGGING

1. Power requirement Formulas, Computes 11 different Power formulas, Grant Tipton, Thurston High School, PET.

2. Computer Assisted Yarding Cost Analysis, determines yarding cost & compares economics of alternative yarding systems, Ronald W. Miflin, P.N.W. Forest & Range Exp. Sta., HP 9845, language BASIC. This program available in manual form (PNW - 108) from the station.

*3. SKIDLOG, interactive skidding model designed to evaluate the potential performance of 4-wheel-drive skidders, Curt C. Hassler, Steven A. Sinclair, & Duncan J. Ferguson, Apple II+. Diskette and User's guide available by writing Department of Forest Products, Virginia Polytechnic Institute and State University. (See September 1983, Journal of Forestry, for description)

n4. Predicting Skidder Productivity: A mobility model, Generates graphs that will aid logging managers in choosing a skidder, planning a skid trail, or gathering an optium turn of logs, Olsen, E.D., & Gibbons, D.J., Forest Research Laboratory, Oregon State University, HP9830, language BASIC., Research Bulletin 43.

MENSURATION

d1. Ransam, processes a simple random sample.

d2. Stras, processes a stratified random sample.

d3. Dosam, a double sampling program.

d4. Tarvol, computes tariff numbers and tree volumes.

All above from Janice Saalfeld, W.S.U., some need work, donor, Don Sligar, Owen Sabin, Apple II.

5. Samplot, systematic sampling distance calculations, donor, Don Sligar, Owen Sabin, TRS -80.

*6. Cruise Computation Program, develops cruise report by plot, species, grade, gross, cull, net, and total. Mason-Bruce Girard 16' tables. Includes written instructions. Phil Wickham R.C.C., Apple II, requires Z-80 card.

7. Cruise Program, develops cruise report as in #6, donor John Rice, C.O.C.C., P.D.P. 11

d8. Table 5 cruising, computes total volume and average tree for second growth Douglas Fir. Usable Only for 100% samples, individual plots etc. Les Martin, N.B.H.S., Apple II.

*9. 3-PCRU, 3-P Cruise, donor C.O.C.C., any machine using Fortan.

*10. POPMOD, graphically displays logistic growth of plant or animal populations given population descriptors, donor Curt McKinney, L.C.C., TRS-80.

11. ANDL 50, estimates Duncan Dunning Site index rating for Western Sierra, donor Sierra College, HP-2000, language BASIC.

12. BAGR, determines number trees/acre and basal area/acre for two separate measurement years, Ron Martinez and Bob Willhite, donor Sierra College, HP-2000, language BASIC.

13. BATHIN, Basal Area determination and Thinning Guidelines, Bob Willhite, donor Sierra College, HP-2000, language BASIC.

d14. Tree height and tree HT2, teaches how to measure a tree using % scale of a clinometer, Jim Di Gennaro, Apple II.

d15. Tree measurement quiz, five question quiz on how to measure a tree, (need a few corrections) Jim Di Gennaro, Apple II.

d16. Point Sampling, a program to analyze point sampling data. Works for only one plot at a time, Jim Di Gennaro, Apple II.

*17. Sample, an Interactive Sampling Program for classroom use, Carl W. Ramm and Daniel Opalach, I.B.M., language BASIC (See August 1983 JOURNAL OF FORESTRY for description).

*18. Harvest, an interactive harvest scheduling simulator for even-aged forests, Richard L. Barber, I.B.M. & Control Data, FORTRAN version 5. (See August 1983 JOURNAL OF FORESTRY for description).

RECREATION

d1. Show Time, a resource interpretation package to supply recreation visitors with wildlife information about a facility being visited. As written covers hawks and owls, Carol Hamlet, donor N.C. State University, Apple II.

d2. Recreation Management, short game like simulations of several recreation management activities in trail building, campground, etc, donor N.C. State University, Apple II.

d3. Facility Reservation Package, a series of different programs set up to demonstrate an operational reservation system. Carol Hamlet & Hugh Devine, N.C. State University, Apple II.

d4. Marina Management, a linear programing model of a commercial marina operation, Hugh Devine, Chrys Siderelis, & Leon Abbas, donor, N.C. State University, Apple II.

d1. Compass, determines closing leg of a traverse, donors, Chris Tackett and Don Sligar, Owen Sabin Skills Center, TRS-80, Apple II.

d2. Map check determines closure and area of a survey, donor, Don Sligar, Owen Sabin Skills Center, TRS-80, Apple II.

d3. Area, part of W.S.U. Forest Inventory Package, computes land acreage. Needs some work, Janice Saalfeld, W.S.U., donor, Don Sligar, Owen Sabin Skills Center, Apple II, and TRS-80.

4. Profile Conversion, converts slope distance and degrees to horizontal distance and difference in elevation, Grant Tipton, Thurston H.S., PET.

d5. Traverse Program, John Rice, C.O.C.C. determines error of closure and area, P.D.P. 11, Apple II.

*6. Traverse program, Bob Vestal, Rogue River N.F., P.O. Box 520, Medford, OR 97520. Description and computer model unknown. Not sure this program is available for general circulation, takes 138 K.

7. COORD, calculates coordinates of stations in open or closed traverse. Adjusts closed traverses and calculates area by double meridian distance, Doug Jager, Humboldt State University, donor, Sierra College, HP-2000, language BASIC.

8. LEVEL, computes H.I., elevation, corrected elevation from backsights and foresights using leveling procedure, J. Dean, donor, Sierra College, HP-2000, language BASIC.

9. TOPOG, determines points of elevation change on a closed traverse, Jim Smith, donor Sierra College, HP-2000, language BASIC.

d10. Traverse Computation, a program to compute area, error of closure, and precision of a traverse, Jim Di Gennaro, Apple II.

d11. Surveying 1, a program to change magnetic bearings to true bearings, Jim Di Genarro, Apple II.

nd12. LATS AND DEPS, calculates lats and deps, error of closure, ratio of error, precision class, corrected lats and deps, corrected bearings and distances, coordinates of all stations, and area of the traverse, Ross Tomlin, Apple II.

TREE AND SHRUB I.D.

1. Tree I.D. quiz, teaches scientific spelling of conifers, Grant Tipton, Thurston High School, PET.

d2. Dendro flashcards, teaches common names of 56 shrubs and trees using key clues in a non-technical manner, donor Les Martin, North Bend High School, Apple II (this program is copyrighted but can be exchanged for non-profit use.)

3. Ch, PLANT 1, 2, 3, and 4, all programs to drill on common and scientific names of trees and plants using the same format, Perry Edwards, donor Sierra College, HP-2000, language BASIC.

4. TREES 5, drills on common names of trees and shrubs, donor Sierra College, HP-2000, language BASIC (recommend most machine responses to student be changed.)-

MISCELLANEOUS

*1. Forestry Programs for Programmable Calculators, Kama R. Sterrett and John E. Gunter, 1982. Extension Bulletin E-1606, Michigan State University Bulletin Office, P.O. Box 231, East Lansing 48824. $1.10 (checks made payable to M.S.U.) 22p.

This publication is the result of a nationwide survey of the members of three SAF working groups--Biometrics, Inventory, and Systems Analysis--by Michigan State University's Cooperative Extension Service and the Department of Forestry. The catalog, which is indexed by subject area, program title, and author, provides a listing of currently available forestry programs for programmable calculators.

*2. Updated Inventory of Agricultural Computer Programs, J. Robert Strain, and Sherry Fieser, March 1982. Circular 531, C.M. Hinton, Publication Dist. Center, IFAS Building 664, University of Florida, Gainesville, Florida 32611. Programs listed are for computers and programmable calculators. Most are from the south. Some programs for forestry. Most are in Fortran. Most are for computers like IBM and UNIVAC. Two programs for TRS-80 analyze Christmas tree production costs and estimate timber value by product. Also some youth programs that might have use at high school i.e. quiz about forests, word search on trees, both TRS-80.

*3. Catalog of contributed programs for HP-41C, HP-67, HP-97, listing of programs for programmable calculators. Write Hewlett Packard, Corvallis, OR.

4. Area, users manual for Janice Saalfeld's area program, XEROX copies available or write Agricultural Research Center, W.S.U., Bulletin TX 0096.

5. A package of microcomputer programs developed for Forest Inventory Applications, complete users manual for Janice Saalfeld's programs, copies available, write Les Martin for cost.

*6. Programmable Calculator Programs to solve softwood volume and value equations, J.K. Ayer Sachet, Write P.N.W. Forest & Range Exp. Sta., Technical Report PNW-143.

VALUATION

1. Profit comparison analysis, compares profitability of two crops at different yields and different commodity prices, Grant Tipton, Thurston H.S., PET.

d2. Forest Investment Analysis program, program does a complete financial analysis of forest management problems. Southeastern Center for Forest Economics Research, P.O. Box 12254, Research Triangle Park, North Carolina 27709, Apple II.

d3. Investment Analysis Programs, DISCO--Discounted Investment Cash flow, NECORE--Net Cost of Reforestation, LOPLIN--Loblolly Pine Investment Analysis, Lester Holley, North Carolina State University, donor S.E. Center for Forest Economics Research, Apple II.

4. APPRAS, determines maximum stumpage bid, Jim Smith, donor Sierra College, HP-2000, language BASIC.

PROPRIETARY PROGRAMS

n*1. FORESTPAK, a series of computer programs which help foresters make forest management decisions, accessed through AGNET, information on cost and individual programs available by writing Cooperative Extension, Washington State University.

n*2. Forestry Programs for Microcomputers, a series of forestry programs ranging in price from $75 to $600, are available from Forestry Suppliers, P.O. Box 8397, Jackson MS 39204-0397, TOLL FREE 1-800-647-5368. A brochure on the programs and sample printouts are available. TRS-80, Apple & IBM.

n*3. Woodplan, a collection of computer programs for woodland management, available through Forest Resources Systems Institute, 13 Ridgeway Road, P.O. Box X, Norris, Tenneessee, 37828, Requires $250/annum dues, all programs run on TI DS 990, some on TRS 80, Apple & IBM.

n*4. SUPERCRUISE, a program to extend timber cruises. Has many features. Brochure and sample printout available. Programmed Forestry, Rt. 2, Box 333, Bandon, OR 97411, (503) 347-2953 after 5 p.m., Apple or Commodore. Cost $265 with discounts to schools.

n*5. Forestry Applications Software, includes Variplot, Traverse, City Tree, Appraisal, Scale, brochure available, Wood Forestry Services, 2610 Meridian Road, Victor, Montana 59875, (406) 642-3818, runs on CP/M systems. Programs are licensed not sold. Costs run $150 to $750.

n*6. Timber Cruising, calculates volume per acre for ponderosa pine and other species, Teaching Aids Inc., P.O. Box 1798, Cost Mesa, CA 92626-0798, (714) 548-9321, cost $39, Apple II.

ADDRESSES

Barber, Richard L., School of Natural Resources, Humboldt State University., Arcata, CA 95521

Brock, Howard, Oregon Dept. of Education, 700 Pringle Parkway, SE, Salem, OR 97310

Cooperative Extension & Dept. of Forestry & Range Management, Washington State University, Pullman, Washington 99164-6412

Department of Forest Products, Virginia Polytechnic Institute & State University, Blacksburg, VA 24061

Di Gennaro, Jim, Sheldon Jackson College, P.O. Box 479, Sitka, Alaska 99835

Forest Research Laboratory, School of Forestry, Oregon State University, Corvallis, OR, 97331

Martin, Les, North Bend High School, 14th & Pacific Street, North Bend, OR 97459

McKinney, Curt, Lane Community College, Eugene, OR 97405

North Carolina State University, School of Forest Resources, Box 8007, Raleigh, NC 27695

Pacific Northwest Forest & Range Experiment Station, 809 NE 6th Ave., Portland, OR 97232, 503-231-2094

Ramm, Carl W. & Oplach, Daniel, Department of Forestry, Michigan State University., East Lansing 48824

Rice, John, C.O.C.C., NW College Way, Bend, OR 97701

Ross Tomlin, Treasure Valley C.C., 650 College Blvd., Ontario, OR 97914

Sligar, Don, Owen Sabin Skills Center, 14211 SE Johnson Road, Milwaukee, OR 97222

Southeastern Center for Forest Economics Research, Box 12254, Research Triangle Park, NC 227099

Tipton, Grant, Thurston High School, 333 N. 58th Street, Springfield, OR 97477

Wickham Phil, Rogue Community College, 3345 Redwood Highway, Grants Pass, OR 97526

Willhite, Bob, Sierra College, 5000 Rocklin Road, Rocklin, CA 95677

Williams, Jerry L., 1918 36th St., Missoula, Montana 59801

FINAL REPORT

Public Domain Microcomputer Software For Forestry

I. PROJECT ABSTRACT

Microcomputer use in vocational education programs has accelarated in the past two years. Most vocational areas are a limited market and therefore very little commercial software is available. The vocational forestry area is one of those limited markets. This project was designed to search out, find, list, and make available public domain forestry software for use by high school and community college instructors.

II. FINAL REPORT PARTICULARS

A.1. Public domain microcomputer software for forestry.

B.1. The goal of this project was to find public domain forestry microcomputer software suitable for high school and community college use and make it available through a catalog service.

2. The methods used to collect the software included:

a) Word-of-mouth. Donations by persons that could be met personally.

b) By letter to institutions. Donations were solicited from all colleges, experiment stations, etc. in Oregon, Washington, California, Idaho, Utah, and Montana.

c) By letters to magazines. Donations were solicited nation-wide through letters in software magazines.

3. This is hard to give an answer. The project was mainly conducted by one person with help form a student secretary. However, the number affected by the software collected is in the 100's.

C. The attached catalogs show the success of the project. Over 50 public domain programs were located with more arriving weekly. Also located and included were proprietary programs which were not an original intent of the project. The catalog has been diseminated nation-wide to over 50 individuals, middle schools, high schools, and colleges. The services listed in the catalog have been utilized by about 16

individuals to date. Again, the number of students affected in total is unknown but considerable.

1. Programs in the catalog are very suitable for handicapped and disadvantaged and are being used at the project school.

2. Again, the programs are used by both female and male students at the project school.

3. The catalog and service is available to private schools and private individuals.

4. The answer to this question depends upon the number of schools using forestry curriculum, that have microcomputers, and that will utilize the available service. It is planned to update the catalog annually.

D. The only problems related to the project involve time. It was found to be very time consuming to answer letters, copy disks and lists, etc.. Correspondence was extensive.

E. No provision was made in this project for evaluation by a third party. The location of over 50 public domain programs with more coming in weekly, the establishment of a disk copy and list service, and a national distribution of the catalog seem more than cost-effective for the contracted $500.

F. Major conclusions reached in this project were:

1. Forestry and forestry-related software is a very limited market, thus few proprietary programs exist.

2. A reasonable amount of public domain software exists nation-wide for forestry. However,much is highly specialized and needs modification for local application in most instances.

3. Persons are willing to share their software creations if they can be found and contacted.

4. A catalog, disk, and list service is and will be valuable in the future for specialized markets such as forestry.

5. Expansion and use will be slow as knowledge of the service spreads mainly

by word of mouth and interest among computer users.

6. Use of microcomputers in high school and community college programs is progressing slowly.

G. Experiences to date with the project indicate it would be possible to transfer the project to other instructional areas where limited software exists due to the specialized nature of the market.

The system of collecting and disseminating information has functioned fairly well, however, appeals to national magazines seem to be much more effective and less time consuming than individual letters to institutions.

H. It is planned to continue the project as stated on the first page of the catalog without federal or state monies. Annual revisions of the catalog are planned, expansion of the mailing list, and services. This will be limited only by its use by participants.

III. BUDGET

This was a contracted project for $500 and was not based on actual costs incurred. If it had been, the project cost would have been much higher due to time involved.

Time spent writing, talking, evaluating, editing, phoning, etc. - $18/hr. X 108 hrs.	$1944.00
Wordprocessing - $5/hr. X 20 hrs.	100.00
Printing	7.75
Postage	21.20
Telephone	15.50
Art Work	10.00
Supplies (disks, envelopes, etc.)	35.00
TOTAL	$2133.45

It should be noted that costs for the project will continue and will be borne by myself and the local school district.

IV. APPENDICES

See Attached Documents.

OK 8413308

Appendix B1
(Completed by Project
Director/Principal
Investigator

ABSTRACT

A. PROJECT DESCRIPTION

1. Project Title: Curriculum - Forest Products Computer Bibliography

2. Principal Investigator and Organization: Dan Dunham
Oregon Alliance for Program Improvement - OSU
Address: Corvallis, OR 97331
Telephone: (503) 754-2179
Congressional District Smith

3. Special Population Target Groups
Check Primary Group(s)

Racial/Ethnic

American Indian or Alaskan Native	____	Limited English Proficiency	____
Asian or Pacific Islander	____	Handicapped	____
Black, Non-Hispanic	____	Disadvantaged	____
Hispanic	____	Displaced Homemaker	____
White, Non-Hispanic	x	Single Head of Household	____
Men	x	Part to Full-Time Employment	____
Women	x	Persons in Non-Traditional Vocations	____
		Others	____

4. Number of Students Affected 1000 ; Number of Staff Affected 50

5. Project Objectives:
To develop a computer forestry/forest products bibliography applicable to high school and community college vocational/technical programs.

6. Project Procedures. (Describe the processes to be used in implementing and evaluating this project):

Contact curriculum clearinghouses, computer companies and high school and community college instructors.

7. Project Products:
Bibliography

8. Expected Contribution or Potential Impact on Vocational Education:
Provide a listing of programs applicable to vocational training to assist students and instructors in computer application.

9. Will the product be placed in a classroom within your district in the five years?

X Yes ____ No

ABSTRACT

APPENDIX B2

B. PROJECT IDENTIFICATION

1. Submitted by Oregon (State)

2. State Contract No. _____ (Encumbrance No.)

3. State Project No. C-PS-4-84

4. Project Title: Curriculum Development - Bibliography of Computer Forestry/Forest Products Software

5. Principal Investigator and Organization: Dan Dunham
OSU - Oregon Alliance for Program Improvement

6. Telephone: (503) 754-2179

7. Organization Type - Check Primary Group: College/University X

SEA _____; LEA _____; Small Business _____;

Intermediate Service Agency_____; Nonprofit____; Indian Tribe____

Other X

8. Funding Period: Jan. 1, 1984 (Start date) June 30, 1984 (End date)

9. Source of Public Law 94-482:

	Amount	Fiscal Year
o Section 131 (Research)	$_____	_____
o Section 132 (Exemplary & Innovative)	_____	_____
o Section 133 (Curriculum)	648	1984
o Section _____(Other)	_____	_____

10. Level of Activity's Impact - Check Primary Level:

Secondary X; Postsecondary X; Adult _____; Other _____

11. Locations: Isolated Rural X; Suburban X; Inner City _____;

Others _____

12. Quality Control of Product(s) (Describe Processes to be Used to Assure High Quality Product(s):

Evaluation by Instructors.

Eugene F. Dummer (RCU Director) 12/7/83 (Date)

BUDGET

TITLE OF PROJECT Curriculum - Forest Products - Computer Bibliography

	TOTAL COSTS	LOCAL COSTS	FEDERAL COSTS
A. 1000 Instruction			
100 Salaries			
200 Employee Benefits			
300 Travel			
Other Purchased Services . . .			
400 Supplies			
Instruction Subtotal			
B. 2210 Improvement of Instructional Services			
100 Salaries			
200 Employee Benefits			
300 Travel			
Other Purchased Services . . .	550		550
400 Supplies	50		50
Improvement of Instructional Services Subtotal	600		600
C. 2220 Educational Media Services			
100 Salaries			
200 Employee Benefits			
300 Purchased Services			
400 Supplies			
Educational Media Services Subtotal			
D. 2500/2600 Support Services Business/ Central			
Indirect Cost @ 8 %	48		48
Support Service Business and Central Subtotal			
E. Other (include explanation)			
Other Subtotal			
COLUMN TOTAL	648		648